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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/425,225	10/22/1999	HIROYUKI SAITO	35.C13942	9248
5514	7590	10/03/2003		
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			EXAMINER POKRZYWA, JOSEPH R	
			ART UNIT 2622	PAPER NUMBER 4
DATE MAILED: 10/03/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/425,225

Applicant(s)

SAITO, HIROYUKI

Examiner

Joseph R. Pokrzywa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Response to Preliminary Amendment

1. Applicant's preliminary amendment was received on 10/22/99, and has been entered and made of record. Currently, **claims 1-17** are pending.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings received on 10/22/99 were not objected to by the Official Draftsman (see the attached PTO-948), and are accepted by the examiner.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1-10, and 12-17** are rejected under 35 U.S.C. 102(b) as being anticipated by Yokoi *et al.* (U.S. Patent Number 4,742,287).

Regarding **claim 1**, Yokoi discloses a recording apparatus (see abstract) provided with a stepping motor as an actuator (see abstract, and column 1, line 5 through column 2, line 61), comprising storage means for storing and holding a final exciting phase of the motor at the time of software power off (column 7, lines 3 through 64), and control means for starting excitation from the final exciting phase without performing phase alignment of the motor at the time of restarting from a software power off state (column 7, line 65 through column 8, line 54).

Regarding **claim 2**, Yokoi discloses a recording apparatus (see abstract) provided with a stepping motor as an actuator (see abstract, and column 1, line 5 through column 2, line 61), comprising storage means for storing and holding a final exciting phase of the motor at the time of software power off (column 7, lines 3 through 64) and a termination status indicating the presence/absence of abnormality at the time of software power off (column 7, line 65 through column 8, line 14), and control means for, at the time of restarting from a software power off state, starting excitation from the final exciting phase without performing phase alignment of the motor when the termination status is normal (column 7, line 65 through column 8, line 54), and

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performing the phase alignment of the motor when the terminal status is abnormal (column 8, lines 5 through 24).

Regarding *claim 3*, Yokoi discloses the apparatus discussed above in claim 2, and further teaches that the control means starts the phase alignment of the motor from the final exciting phase when the termination status is abnormal (column 7, line 65 through column 8, line 14).

Regarding *claim 4*, Yokoi discloses a recording apparatus (see abstract) provided with a stepping motor as an actuator (see abstract, and column 1, line 5 through column 2, line 61), comprising storage means for storing and holding a final exciting phase of the motor at the time of software power off (column 7, lines 3 through 64), a sensor for, when predetermined pulses are applied to the motor from a standby position, judging whether the motor moves by the predetermined pulses (column 7, lines 18 through 41), and control means for starting excitation from the final exciting phase to apply the predetermined pulses without performing phase alignment of the motor at the time of restarting from a software power off state (column 7, line 65 through column 8, line 54), normally starting when the sensor judges that the motor moves by the predetermined pulses (column 7, line 31 through column 8, line 24), and performing the phase alignment of the motor when it is judged that the motor does not move by the predetermined pulses (column 8, lines 5 through 24).

Regarding *claim 5*, Yokoi discloses a recording apparatus (see abstract) provided with a stepping motor as an actuator (see abstract, and column 1, line 5 through column 2, line 61), comprising storage means for storing and holding a final exciting phase of the motor at the time of software power off (column 7, lines 3 through 64), a sensor for detecting a rotating amount of the motor or an equivalent value which is detectable even in a software power off state (column

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7, lines 18 through 41), and control means for, at the time of restarting from software power off state, obtaining an exciting phase compatible with a rotor position of the motor at the time of restarting from data of the rotating amount of the motor and the final exciting phase detected by the sensor (column 7, line 65 through column 8, line 54), and starting excitation from the obtained exciting phase without performing phase alignment of the motor (column 8, lines 11 through 54).

Regarding *claim 6*, Yokoi discloses the apparatus discussed above in any of claims 1-5, and further teaches that the recording apparatus is a serial type recording apparatus (see abstract, and column 1, line 14 through column 2, line 57).

Regarding *claim 7*, Yokoi discloses the apparatus discussed above in claim 6, and further teaches that the stepping motor is a carriage driving motor (column 3, lines 10 through 51).

Regarding *claim 8*, Yokoi discloses the apparatus discussed above in claim 6, and further teaches that the stepping motor is a printing material conveying motor (column 3, line 10 through column 4, line 57).

Regarding *claim 9*, Yokoi discloses the apparatus discussed above in claim 6, and further teaches that the stepping motor is a printing material sheet supplying motor (column 3, line 10 through column 4, line 57).

Regarding *claim 10*, Yokoi discloses the apparatus discussed above in claim 6, and further teaches that the stepping motor is a recording head maintenance mechanism driving motor (column 3, line 10 through column 4, line 57).

Regarding *claim 12*, Yokoi discloses a recording apparatus (see abstract) provided with a stepping motor as an actuator (see abstract, and column 1, line 5 through column 2, line 61),

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comprising means for changing an exciting phase of the stepping motor to step-drive the stepping motor (column 6, line 57 through column 7, line 51), means for storing a final exciting phase of the stepping motor at the time of power off of the device (column 7, lines 3 through 64), and means for starting excitation of the stepping motor from the final exciting phase stored in the storage means at the time of restarting from a power off state of the device (column 7, line 55 through column 8, line 54).

Regarding *claim 13*, Yokoi discloses the apparatus discussed above in claim 12, and further teaches of means for aligning a mechanical phase of the stepping motor and an electrical phase stored in the storage means (column 7, line 65 through column 8, line 14), wherein at the time of restarting from the power off state of the device, when the control means starts the excitation of the stepping motor from the final excitation phase stored in the storage means, the phase alignment means does not perform the phase alignment (column 7, line 55 through column 8, line 54).

Regarding *claim 14*, Yokoi discloses the apparatus discussed above in claim 13, and further teaches of another storage means for storing a termination status indicating a presence/absence of abnormality at the time of power off of the device (column 8, lines 5 through 11), wherein at the time of restarting from the power off state of the device, the control means starts the excitation of the stepping motor from the final exciting phase stored in the storage means without performing the phase alignment by the phase alignment means when the another storage means stores a normal termination status (column 7, line 55 through column 8, line 54), and performs the phase alignment by the phase alignment means before starting drive of

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the stepping motor when another storage means stores an abnormal termination status (column 7, line 65 through column 8, line 24).

Regarding *claim 15*, Yokoi discloses the apparatus discussed above in claim 14, and further teaches that the control means starts the phase alignment by the phase alignment means from the final exciting phase stored in the storage means when the another storage means stores an abnormal termination status (column 7, line 55 through column 8, line 24).

Regarding *claim 16*, Yokoi discloses a recording apparatus (see abstract) provided with a stepping motor as an actuator (see abstract, and column 1, line 5 through column 2, line 61), comprising means for changing an exciting phase of the stepping motor to step-drive the stepping motor (column 6, line 57 through column 7, line 51), means for storing a final exciting phase of the stepping motor at the time of power off of the device (column 7, lines 3 through 64), means for aligning a mechanical phase of the stepping motor and an electrical phase stored in the storage means (column 7, line 65 through column 8, line 46), a driven member driven by the stepping motor, a sensor for judging whether the driven member moves by predetermined pulses from a standby position of the member (column 7, lines 18 through 48), and means for starting excitation of the stepping motor from the final exciting phase stored in the storage means to drive the driven member by the predetermined pulses at the time of restarting from a power off state of the device (column 7, line 55 through column 8, line 24), normally starting the stepping motor without performing the phase alignment by the phase alignment means when the sensor judges that the driven member is moved by the predetermined pulses (column 7, line 18 through column 8, line 46), and performing the phase alignment by the phase alignment means when the sensor

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judges that the driven member is not moved by the predetermined pulses (column 7, line 65 through column 8, line 14).

Regarding *claim 17*, Yokoi discloses a recording apparatus (see abstract) provided with a stepping motor as an actuator (see abstract, and column 1, line 5 through column 2, line 61), comprising means for changing an exciting phase of the stepping motor to step-drive the stepping motor (column 6, line 57 through column 7, line 51), a sensor for detecting a value corresponding to a rotating amount of the stepping motor even at the time of power off of the device (column 7, lines 14 through 64), means for storing a final exciting phase of the stepping motor at the time of power off of the device (column 7, lines 3 through 64), a value stored in the storage means being rewritten in accordance with the value of the sensor at the time of power off (column 7, lines 55 through 64), and means for at the time of restarting from a power off state of the device, starting excitation of the stepping motor from the exciting phase rewritten and stored in the storage means also at the time of power off of the device (column 7, line 65 through column 8, line 54).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoi *et al.* (U.S. Patent Number 4,742,287) in view of Yamaguchi (U.S. Patent Number 6,144,184).

Regarding **claim 11**, Yokoi discloses the apparatus discussed above in any of claims 1-5, but fails to specifically teach if the recording apparatus is an ink jet type recording apparatus. Yamaguchi discloses a recording apparatus provided with a stepping motor as an actuator (see abstract, and column 1, line 49 through column 2, line 62), comprising storage means for storing and holding an exciting phase of the motor (column 13, lines 22 through 50), and control means for starting excitation from the exciting phase (see abstract, and column 13, line 22 through column 14, line 47). Further, Yamaguchi teaches that the recording apparatus is an ink jet type recording apparatus (see Fig. 5, column 10, lines 52 through 67). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include Yamaguchi's teachings in the system of Yokoi, as the systems share cumulative features, being additive in nature.

Citation of Pertinent Prior Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Ikawa *et al.* (U.S. Patent Number 5,825,151) discloses an apparatus for driving a stepping motor;

Yamamoto *et al.* (U.S. Patent Number 5,040,234) discloses an apparatus for generating a timing signal that drives a stepping motor;

Yamakawa (U.S. Patent Number 5,007,751) discloses a printer with a stepper motor.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joe Pokrzywa whose telephone number is (703) 305-0146. The examiner can normally be reached on Monday-Friday, 7:30-4:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (703) 305-4712. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

J.P.P.

Joseph R. Pokrzywa
Examiner
Art Unit 2622

jrp


EDWARD COLES
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600